

CHART #4 - US FULL SERVICE/286K GRL/13.0% NBR  
THEORETICAL SINGLE CAR STOP/LEVEL GRADE

FIG. 1

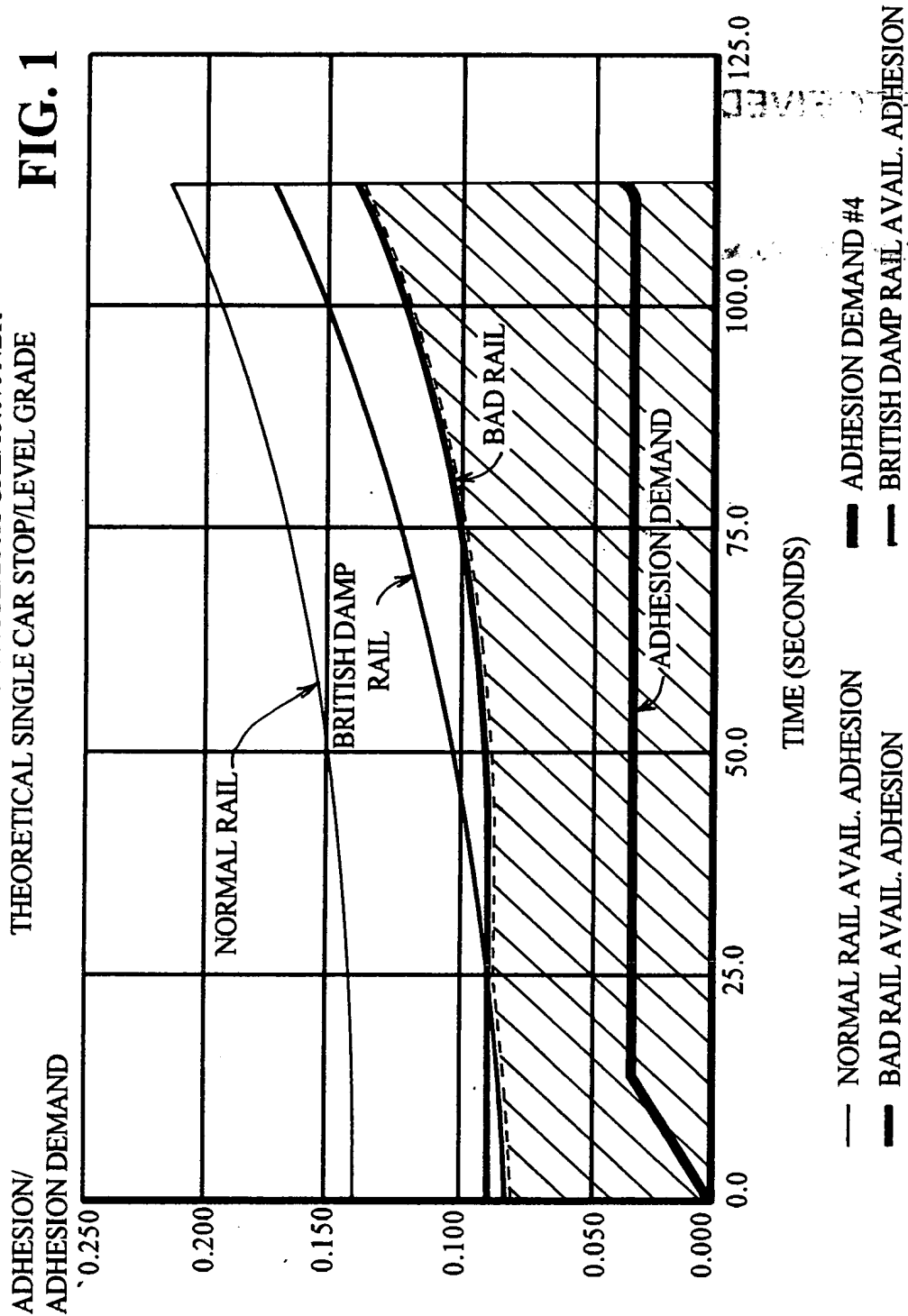
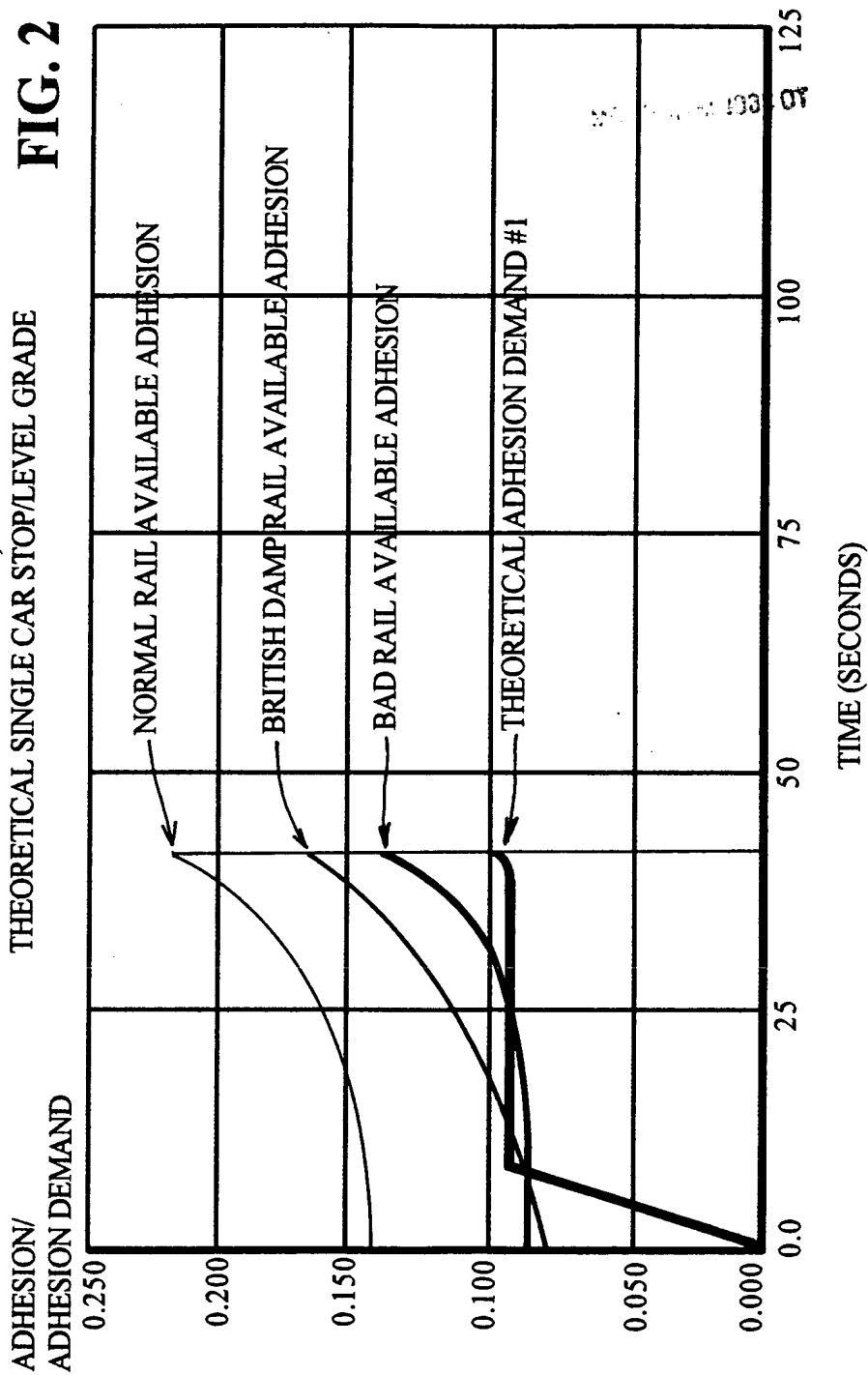


CHART #1 - US FULL SERVICE/52,260 LT. WT./38.0% NBR  
THEORETICAL SINGLE CAR STOP/LEVEL GRADE

FIG. 2



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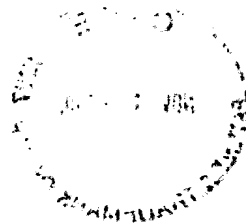
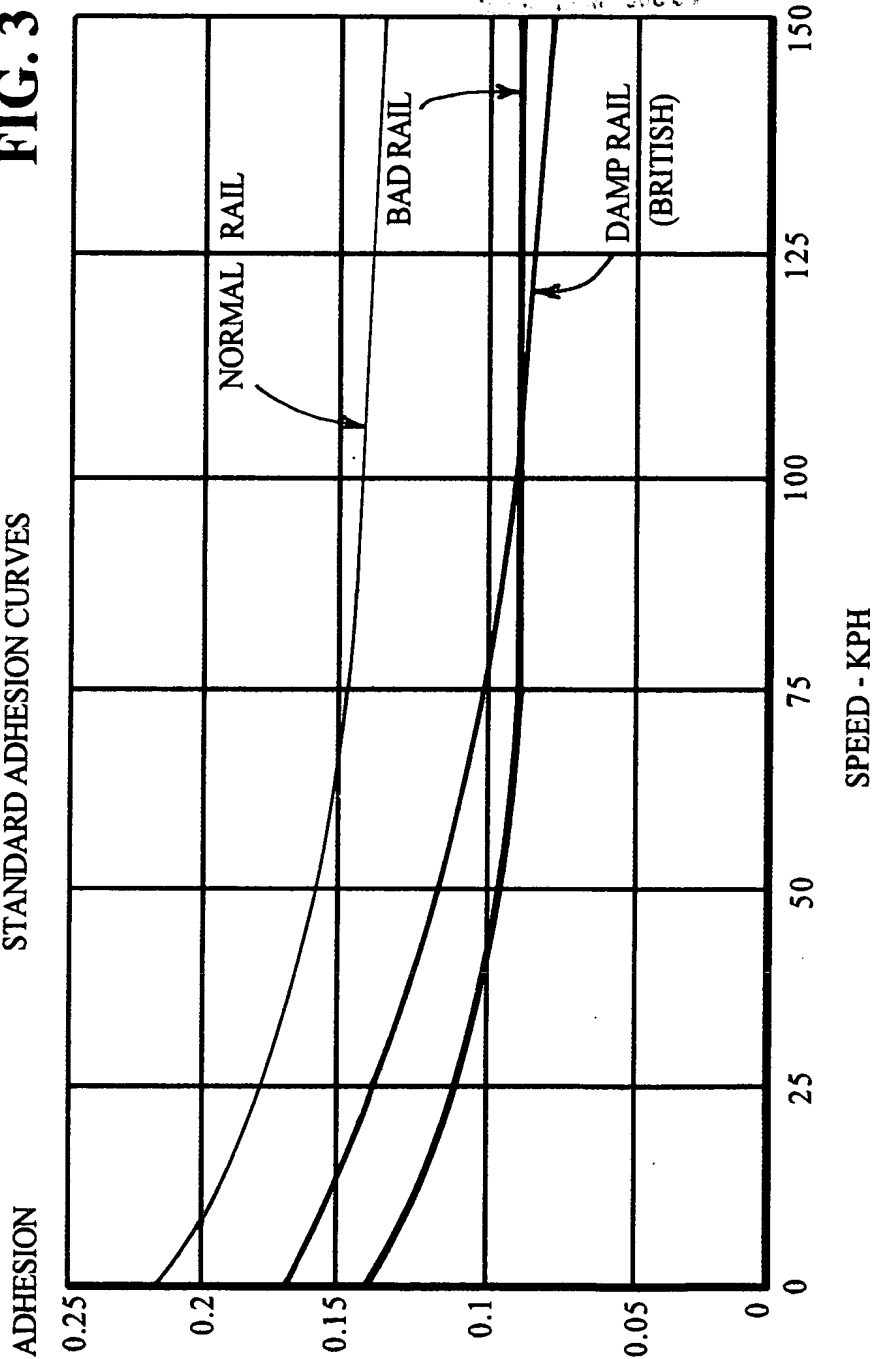
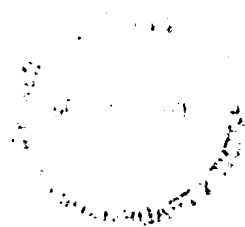


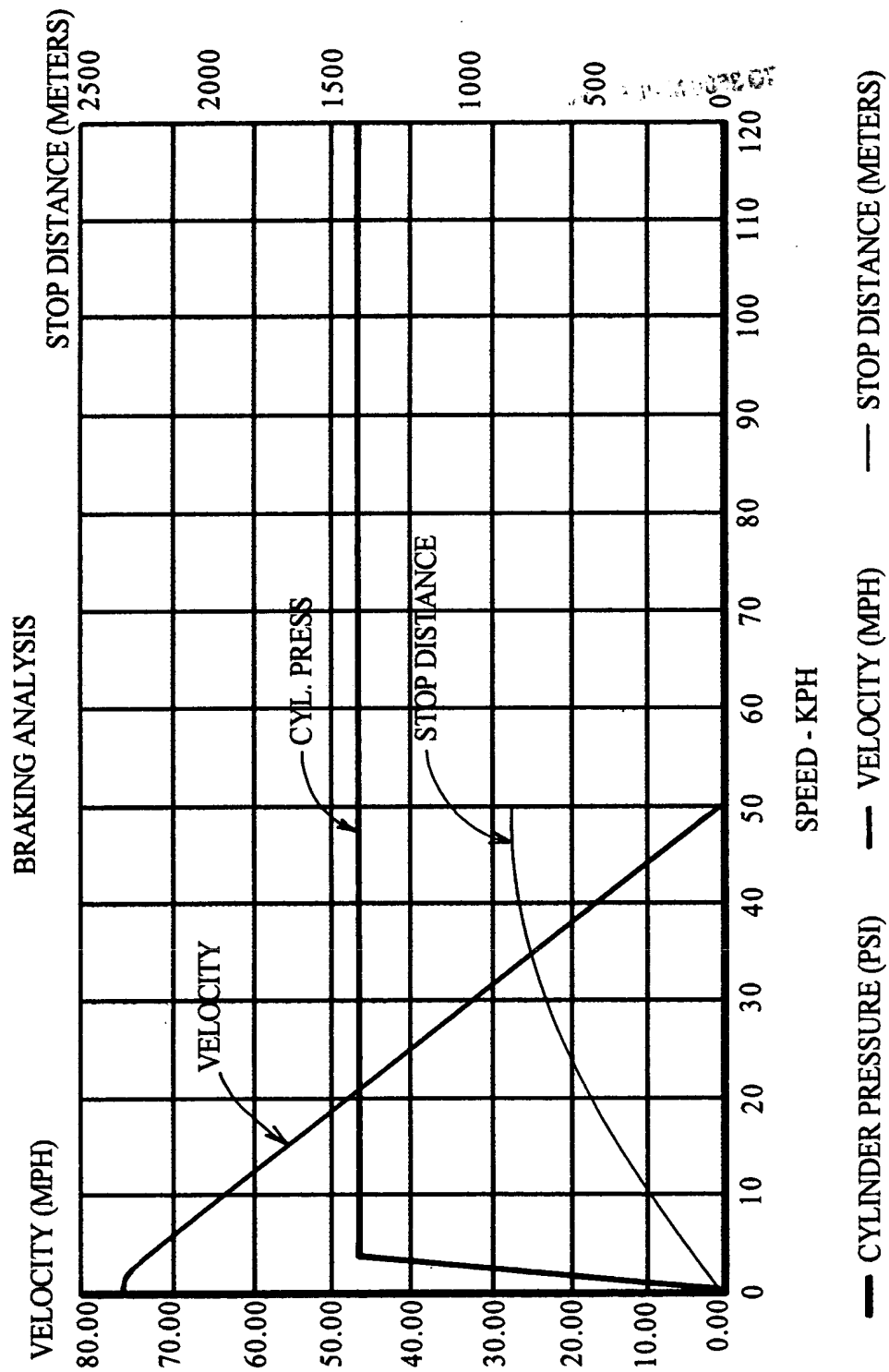
FIG. 3

STANDARD ADHESION CURVES



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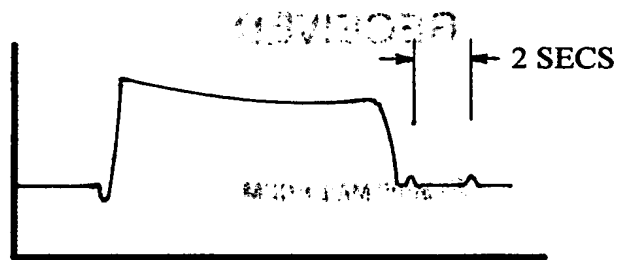


**FIG. 4**

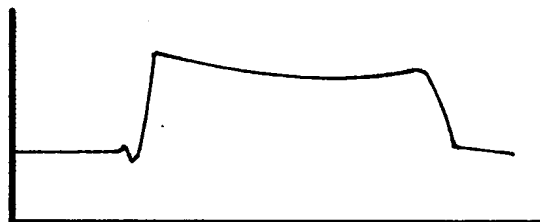
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TEST 14  
58.8 MILE/HR.

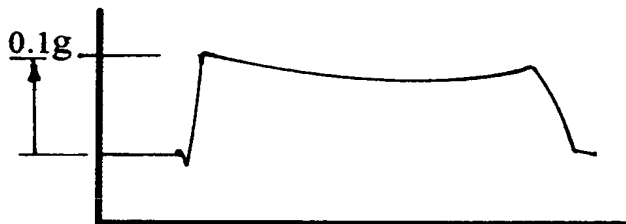


TEST 12  
65.5 MILE/HR.



CHANGE IN DECELERATION  
DUE TO BREAK SHOE FADE

TEST 10  
72.9 MILE/HR.



DECELERATION →

**FIG. 5**

CHART #1 - US FULL SERV./62,260 LT. WT./38.0% NBR  
THEORETICAL SINGLE CAR STOP/LEVEL GRADE

ADHESION/  
ADHESION DEMAND

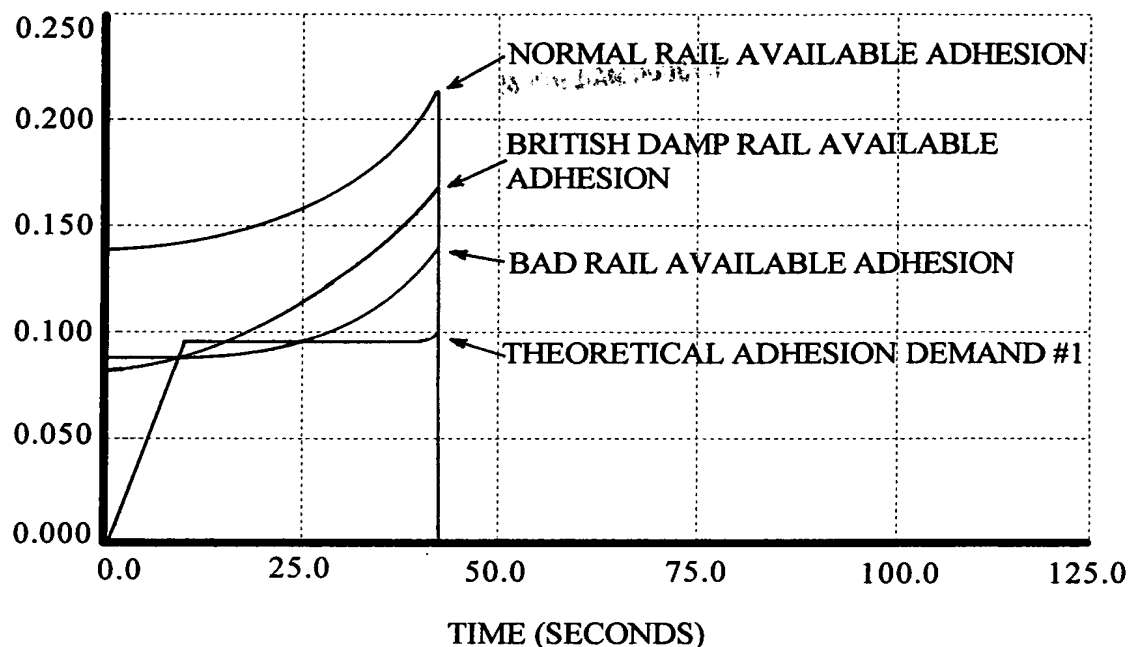


CHART #2 - US EMERGENCY/52,260 LT. WT./45.6% NBR  
THEORETICAL SINGLE CAR STOP/LEVEL GRADE

ADHESION/  
ADHESION DEMAND

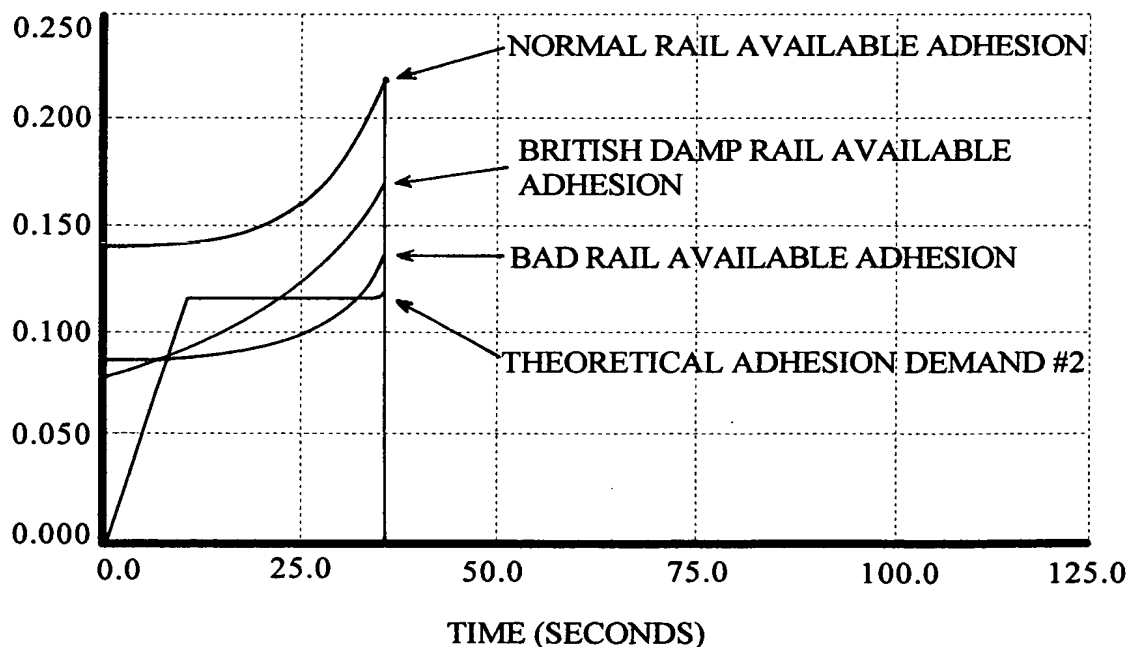


CHART #3 - US EMERGENCY/286K GRL/15.5% NBR  
ADHESION/ THEORETICAL SINGLE CAR STOP/LEVEL GRADE  
ADHESION DEMAND

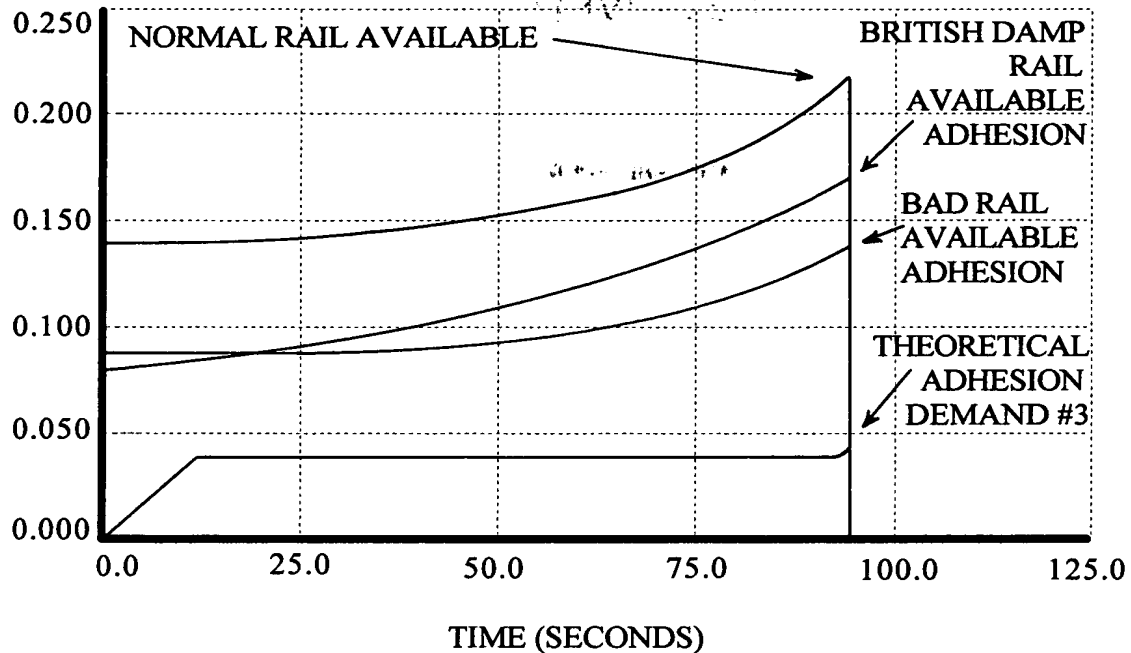


CHART #4 - US FULL SERVICE/286K GRL/13.0% NBR  
ADHESION/ THEORETICAL SINGLE CAR STOP/LEVEL GRADE  
ADHESION DEMAND

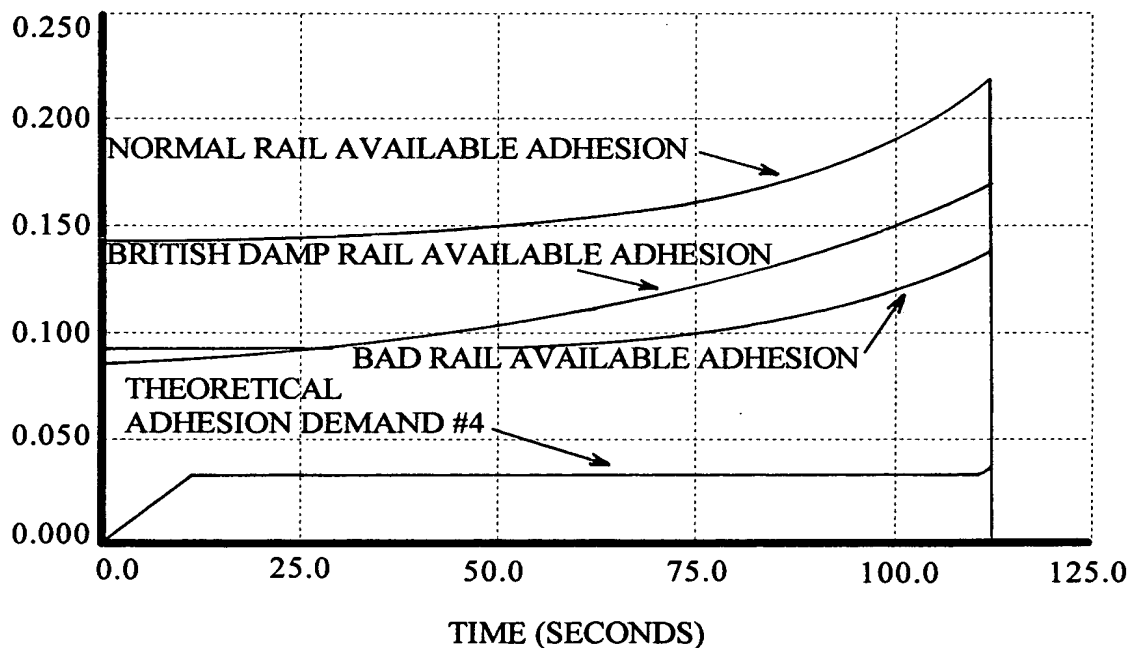


CHART #5- UK TARE/63,947 LT. WT./29.0% NBR  
 ADHESION/ THEORETICAL SINGLE CAR STOP/LEVEL GRADE  
 ADHESION DEMAND

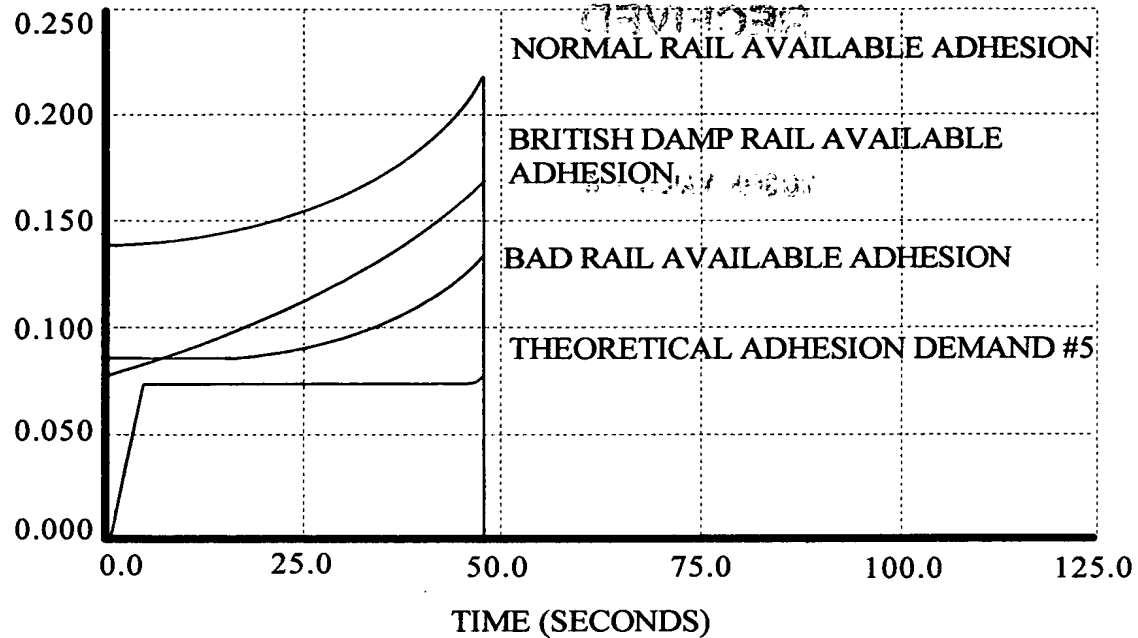


CHART #6 - UK 90 METRIC TON/198.5K GRL/28.6% NBR  
 ADHESION/ THEORETICAL SINGLE CAR STOP/LEVEL GRADE  
 ADHESION DEMAND

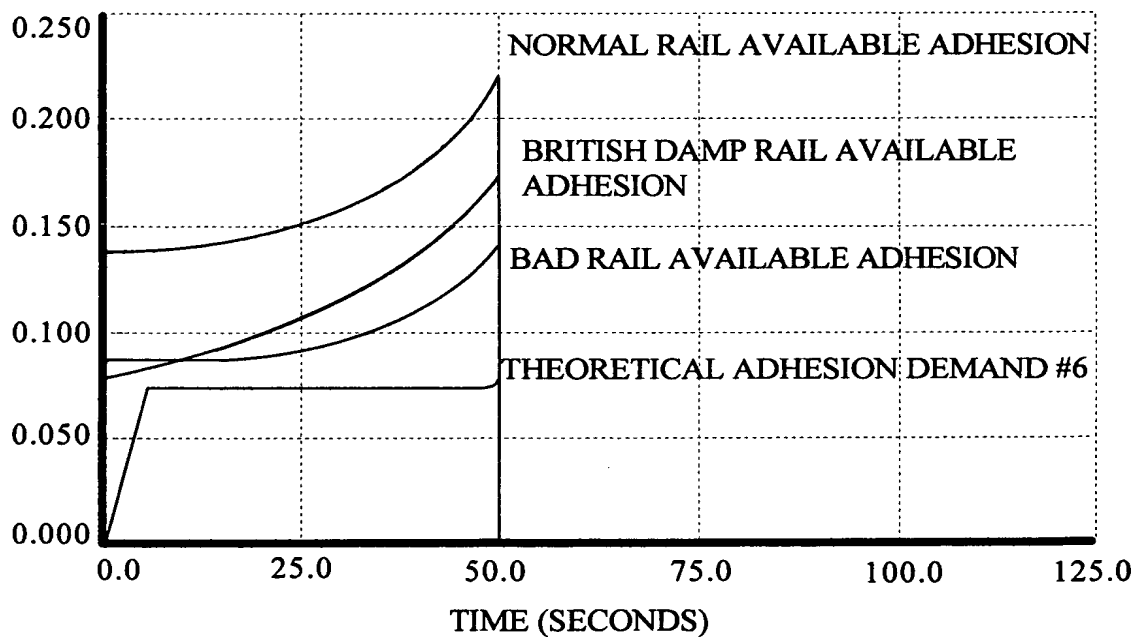




CHART #7- UK 102 METRIC TON/225K GRL 28.6% NBR  
THEORETICAL SINGLE CAR STOP/LEVEL GRADE  
ADHESION/  
ADHESION DEMAND

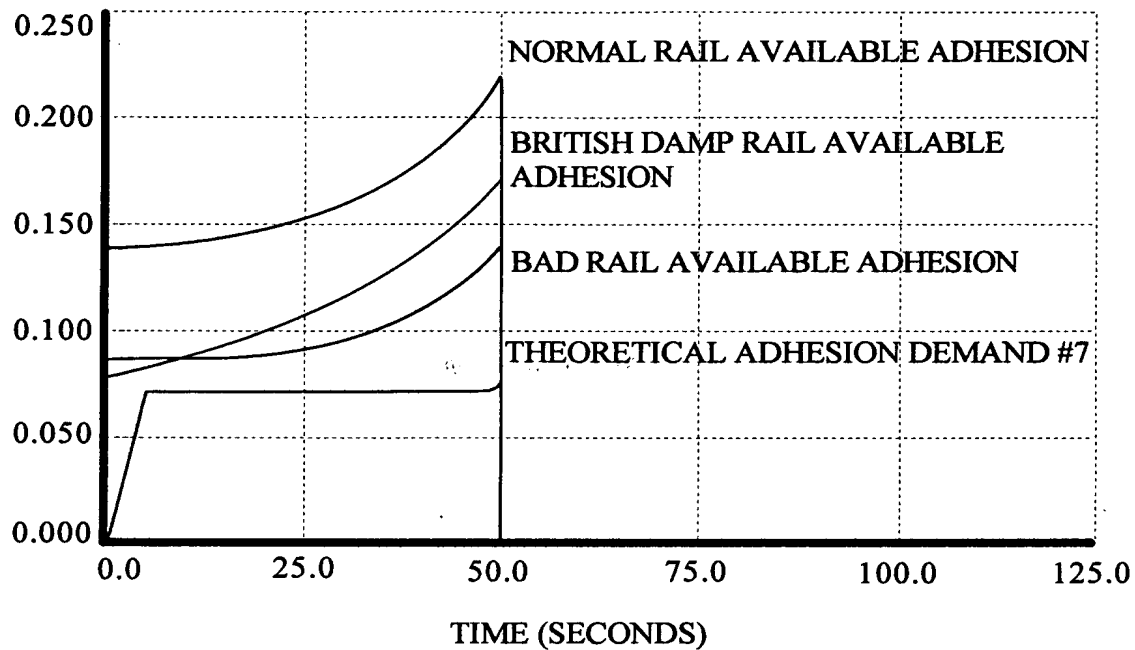


CHART #8 - SINGLE CARE STOP DISTANCES

